

CAD : TEAM PROJECT

MY BRO, BUMBLEBEE

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1

INTRODUCTION

1.0

팀 소개

MY BRO,

BUMBLEBEE

→ 세계적인 축구 선수 '크리스티아누 호날두'의 별명 '우리 형'
'MY BRO, BUMBLEBEE' 라는 팀명 선정

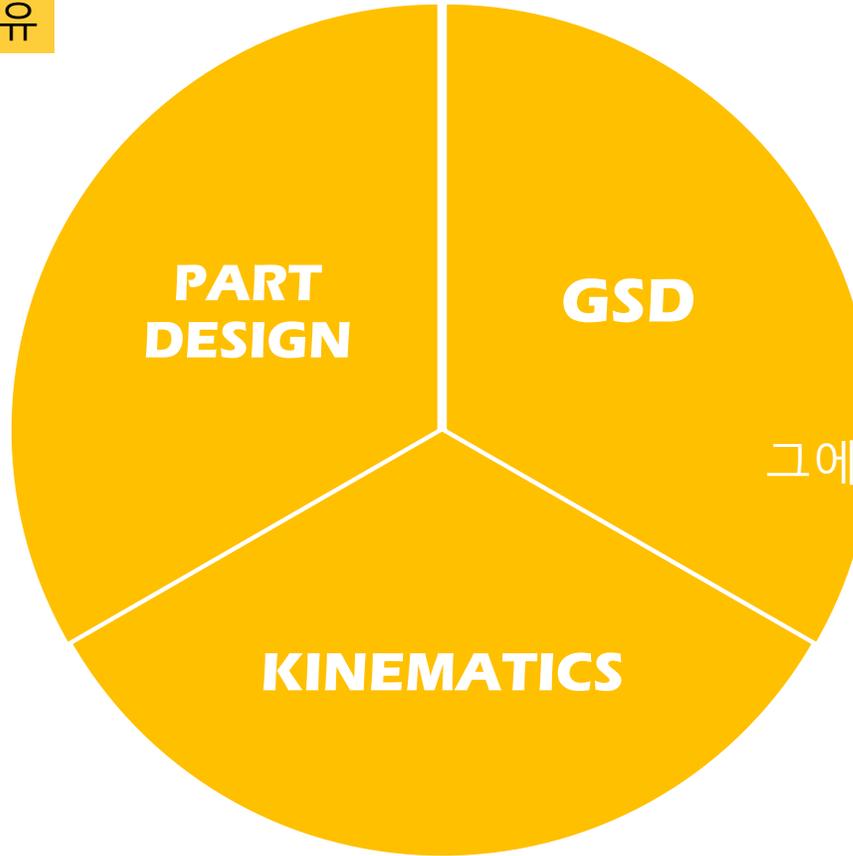
1.1

모델 선정

범블비 영상

1.2

모델 선정 이유



CAD 수업 내용을
모두 활용할 수 있는 적합한 모델

기어를 제작한 후
그에 의한 로봇의 움직임을 확인하고자 함

1.3

설계 목표

호날두 세레머니 영상

1.3

설계 목표

원하는 MODEL 제작
원하는 MOTION 구현

2

MODELING

2.0

OUTSOURCING



출처 : TFW2005.COM

2.0

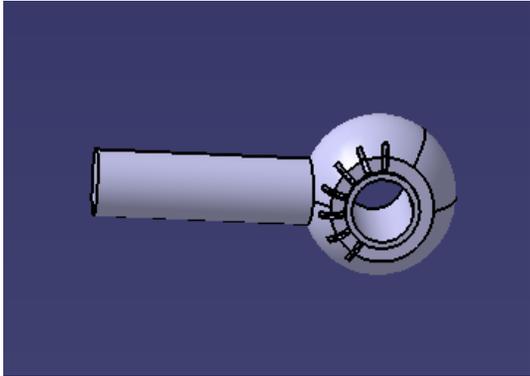
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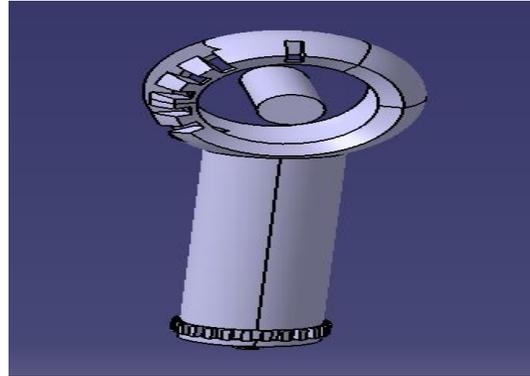
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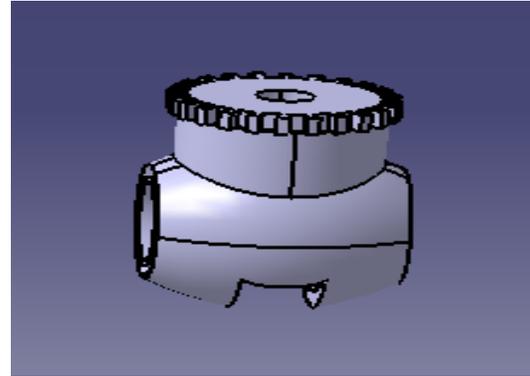
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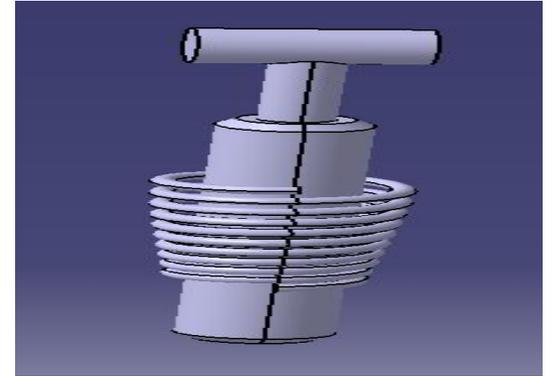
ARM JOINT 1



ARM JOINT 2



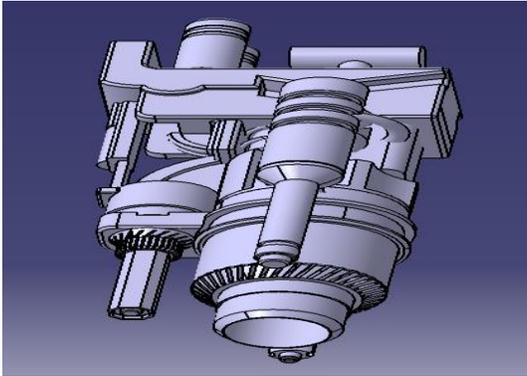
ARM JOINT 3



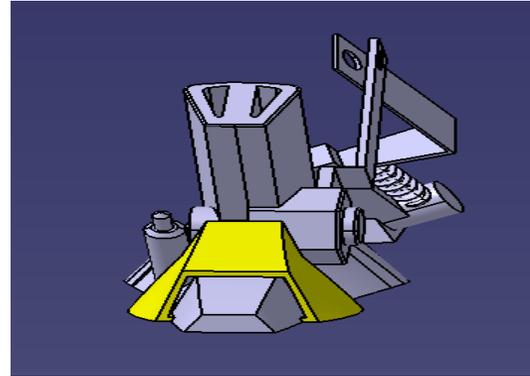
ARM JOINT 4

2.1

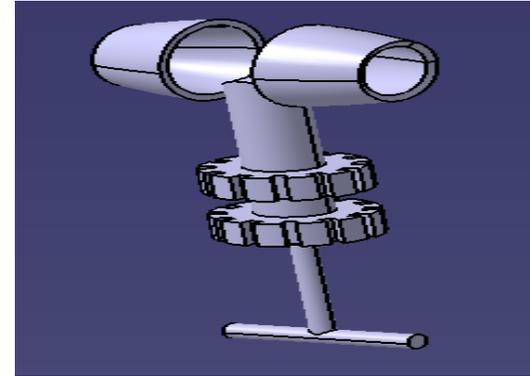
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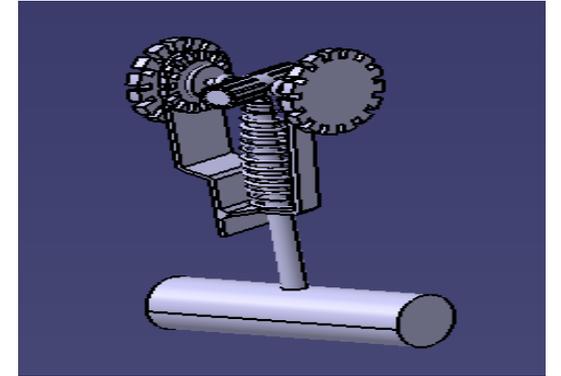
CANON



FOOT



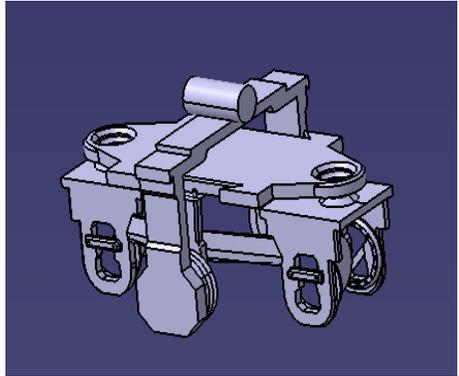
SHIN JOINT



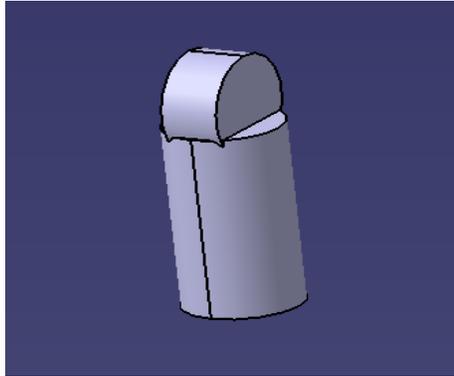
THIGH JOINT

2.1

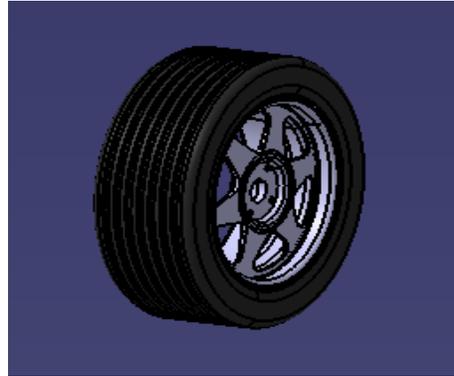
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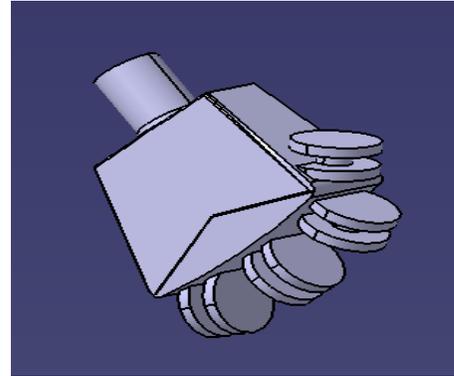
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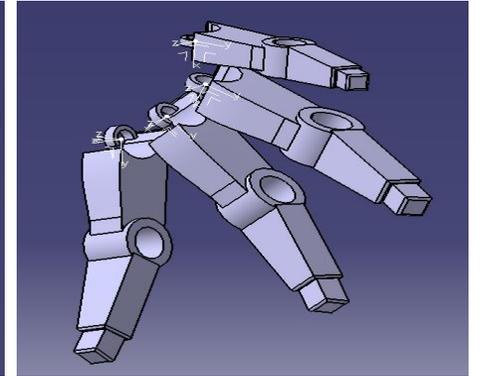
NECK



ANKLE



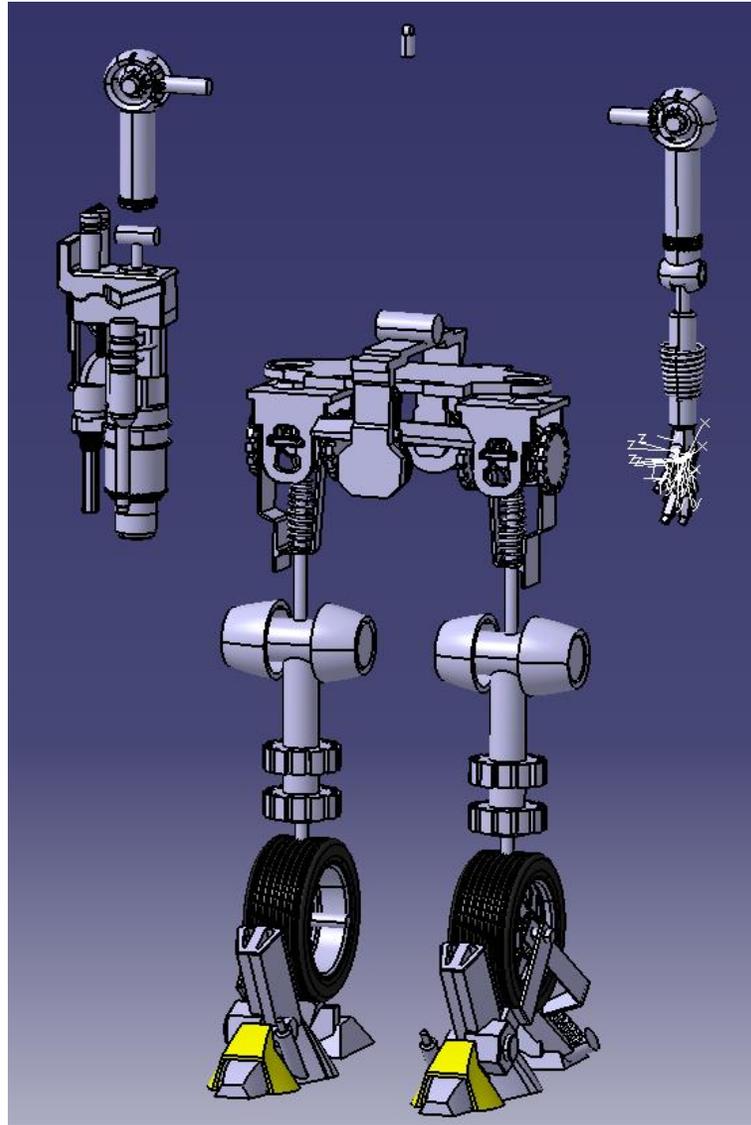
HAND



FINGER

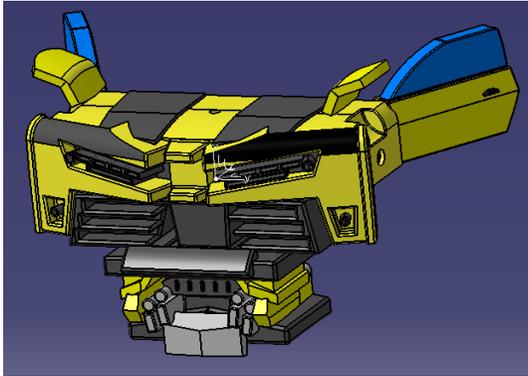
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FRAME

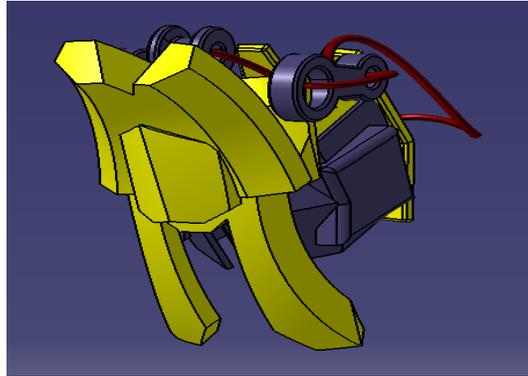


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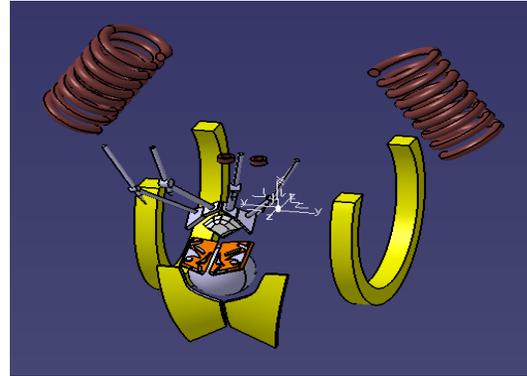
SHAPE



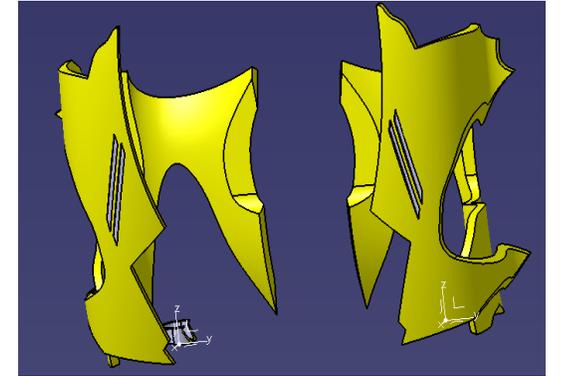
TOP BODY



SHIN COVER



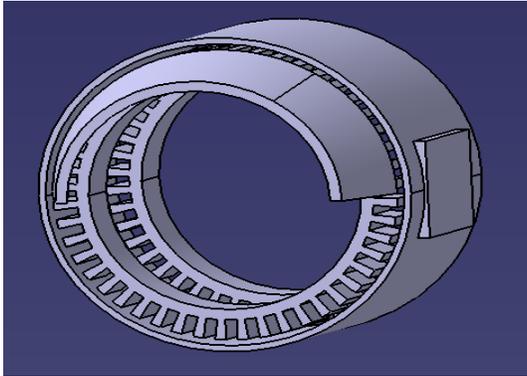
FELVIS COVER



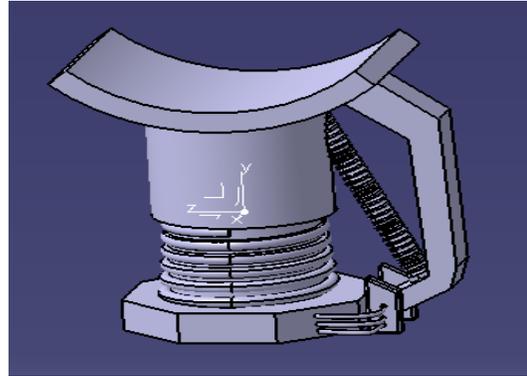
THIGH COVER

2.2

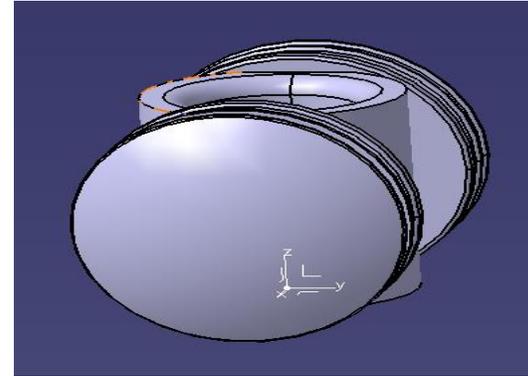
SHAPE



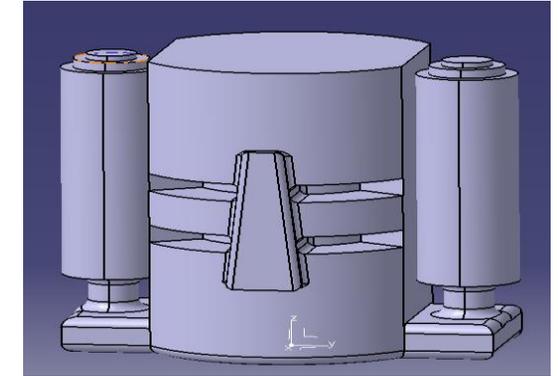
ARM COVER 1



ARM COVER 2



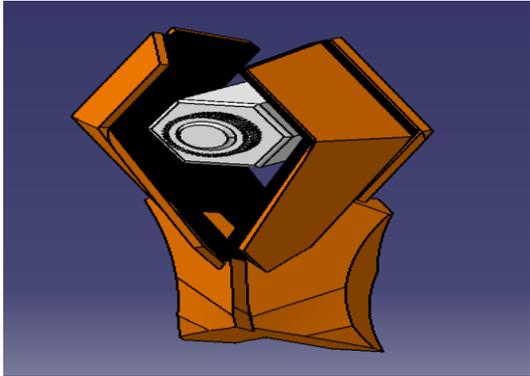
ARM COVER 3



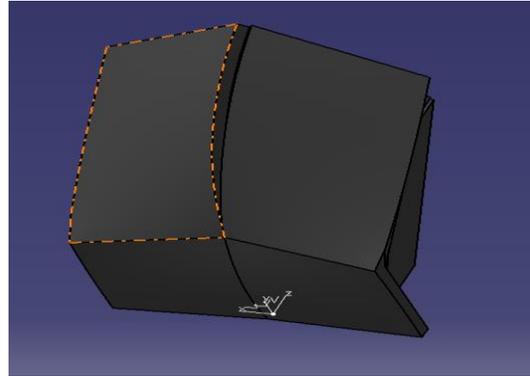
ARM COVER 4

2.2

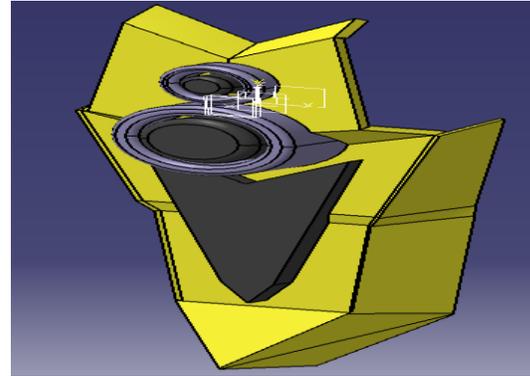
SHAPE



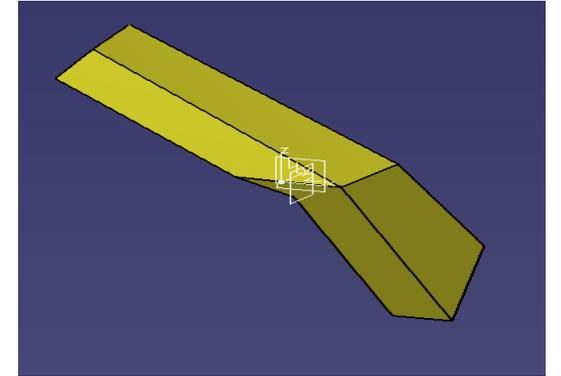
ARM COVER 5



ARM COVER 6



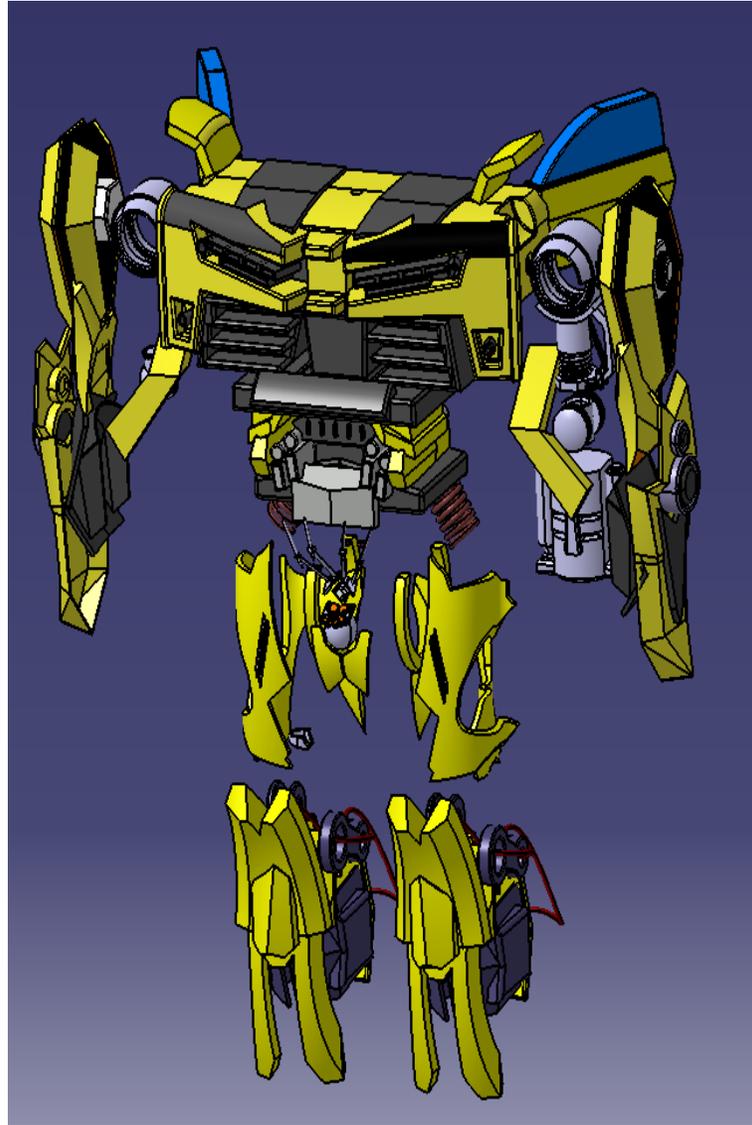
ARM COVER 7



ARM COVER 8

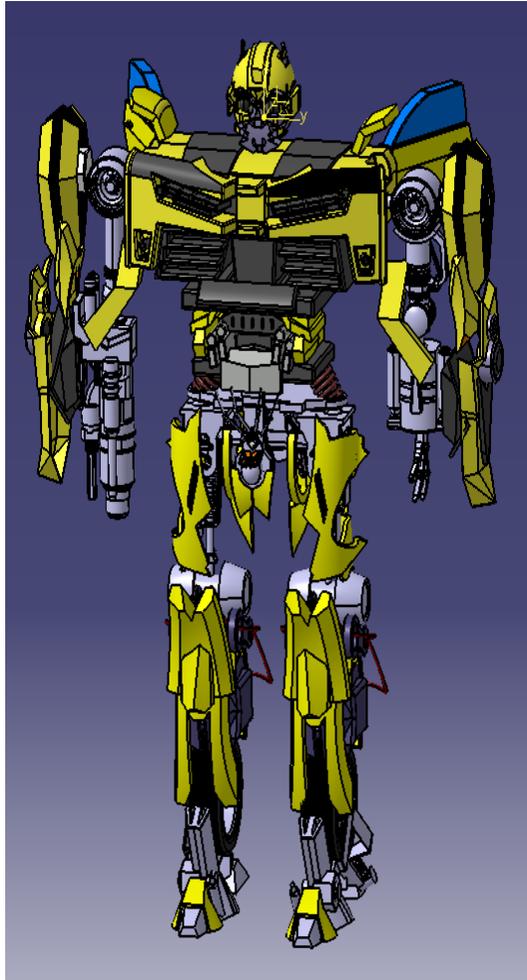
2.2

SHAPE



2.2

SHAPE

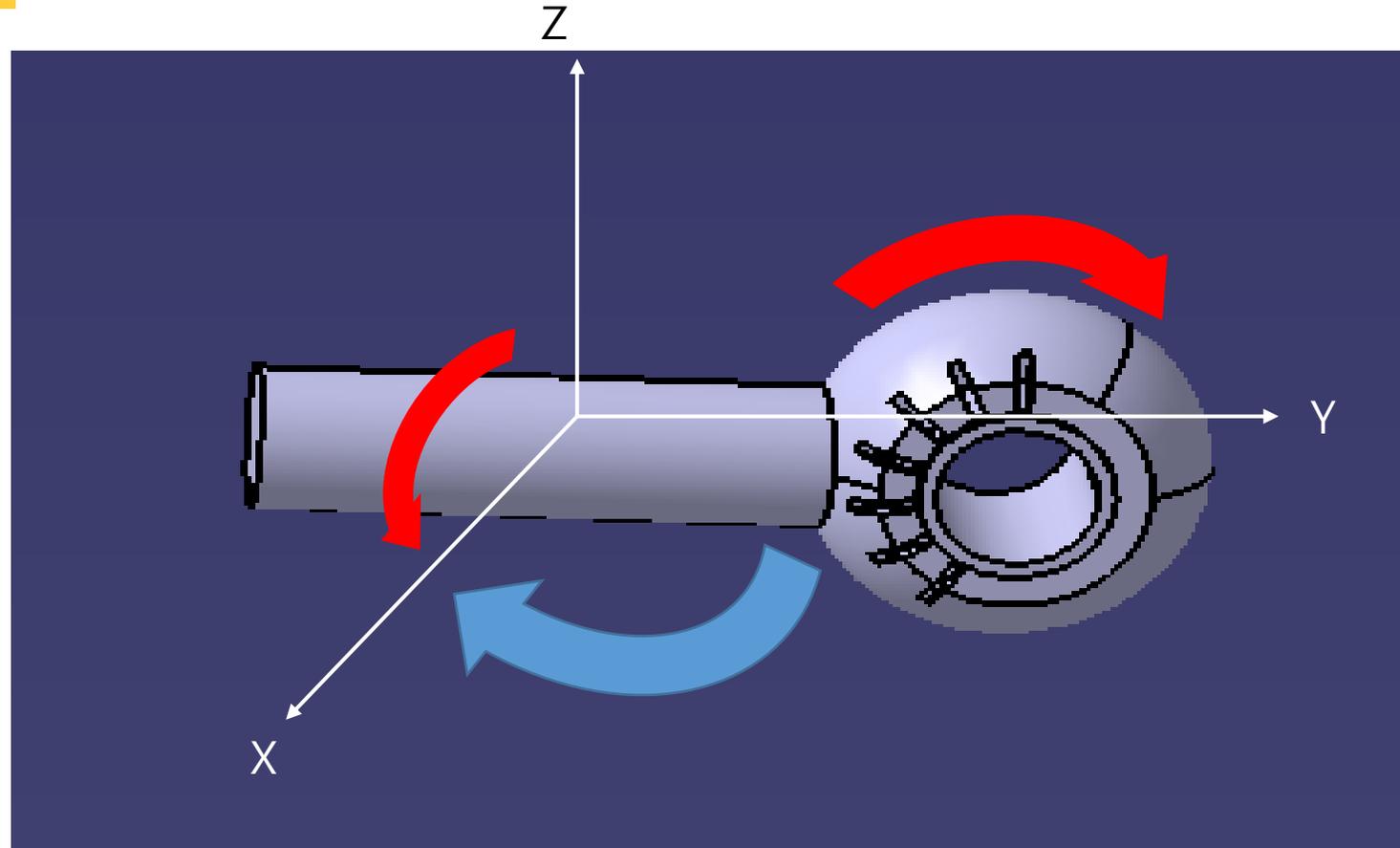


3

KINEMATIC

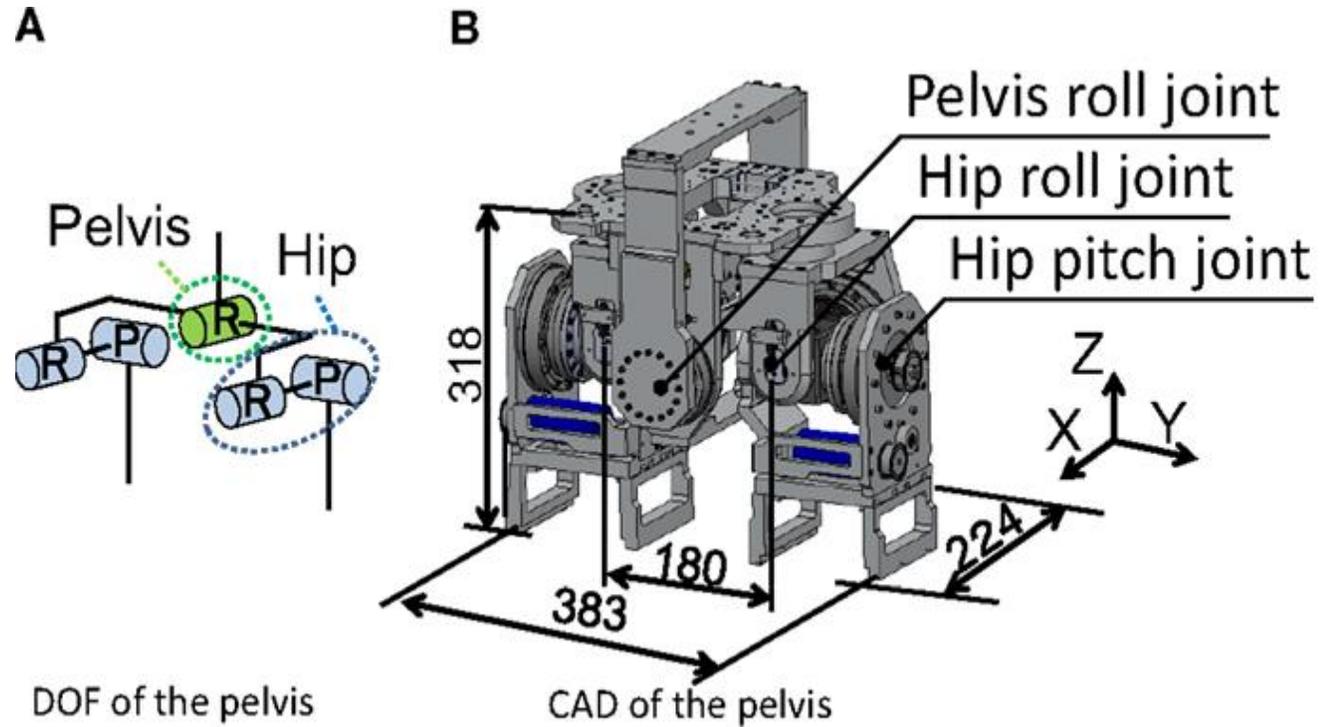
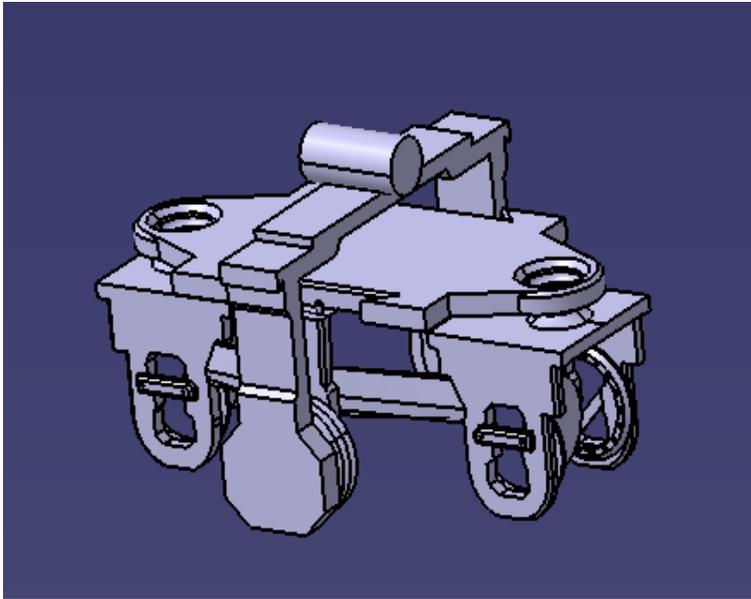
3.0

FRAME : ARM JOINT 1



3.0

FRAME : PLEVIS

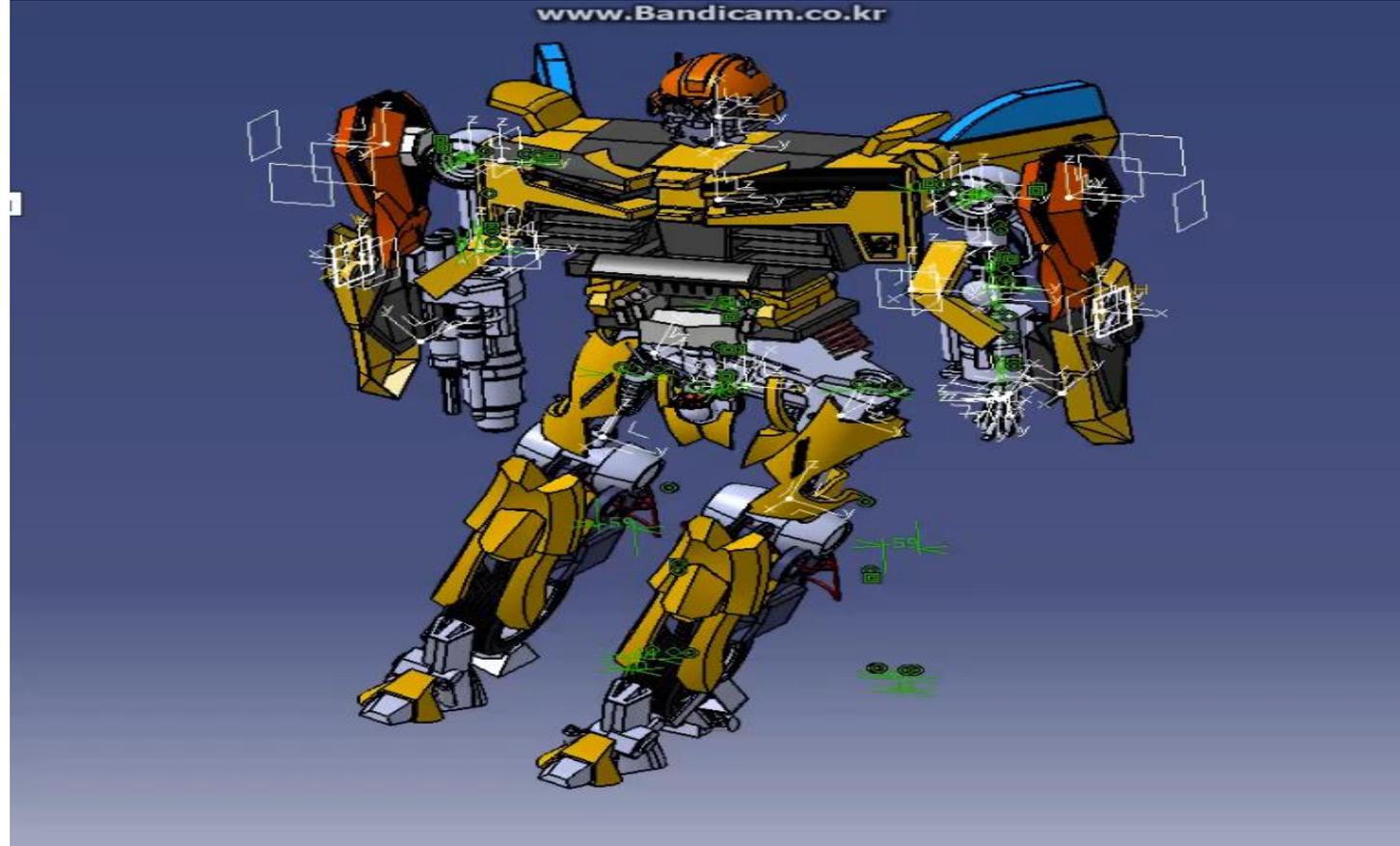


Reference :

Takuya Otani, 2015, Utilization of human-like pelvic rotation for running robot, Figure 6, from frontiers website : <http://journal.frontiersin.org/article/10.3389/frobt.2015.00017/full>

3.1

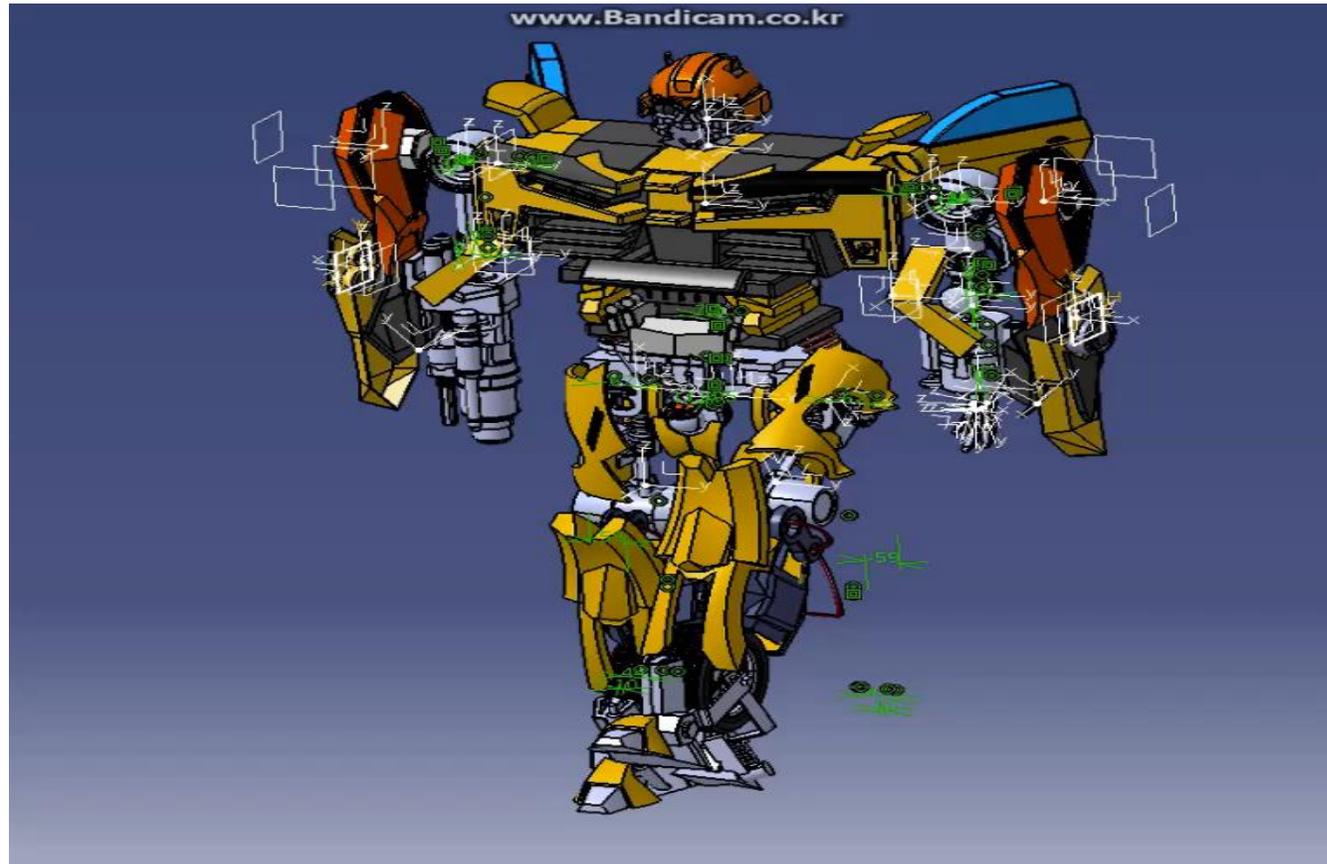
PART ASSEMBLY
KINEMATIC



골반

3.1

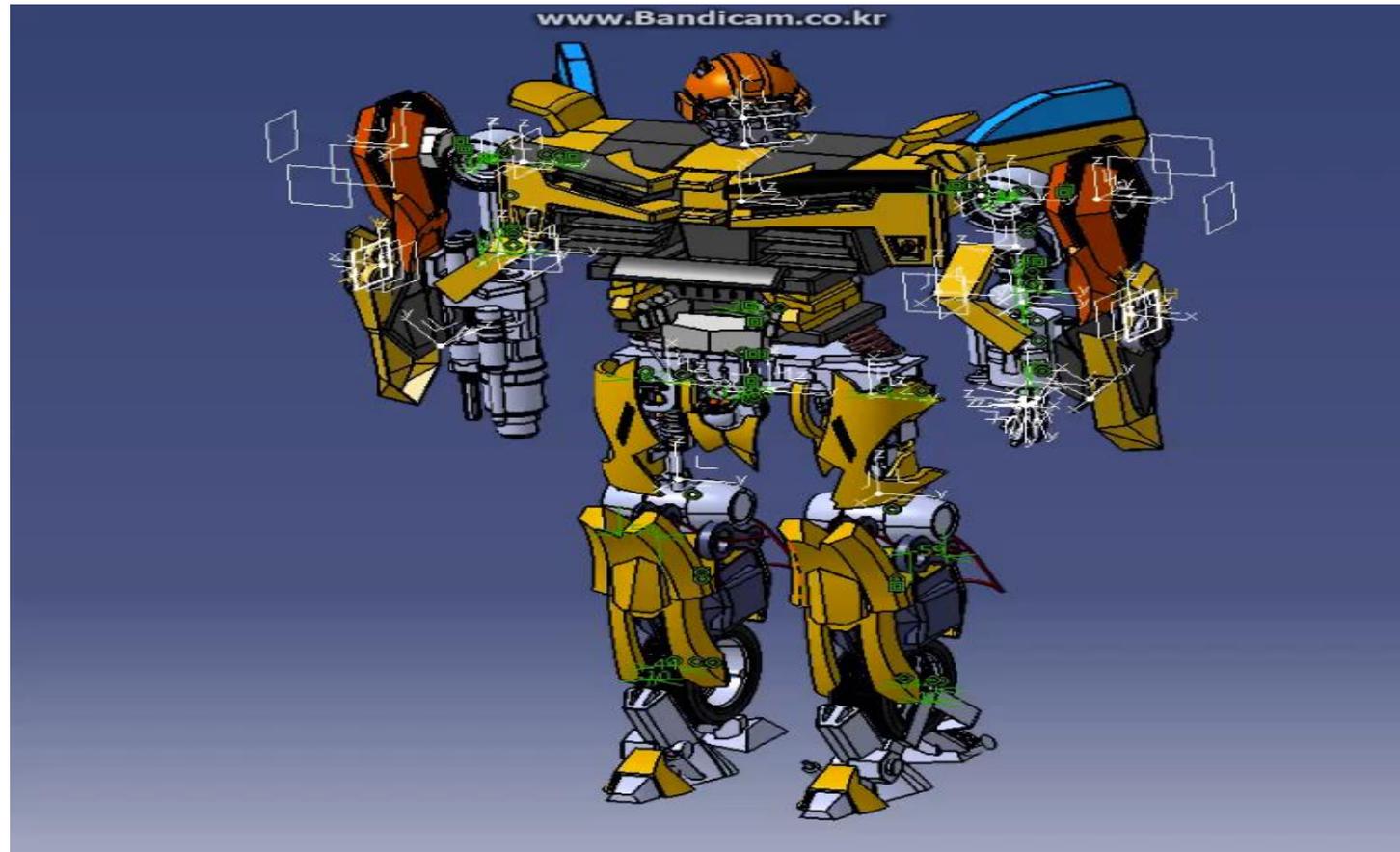
PART ASSEMBLY KINEMATIC



다리

3.1

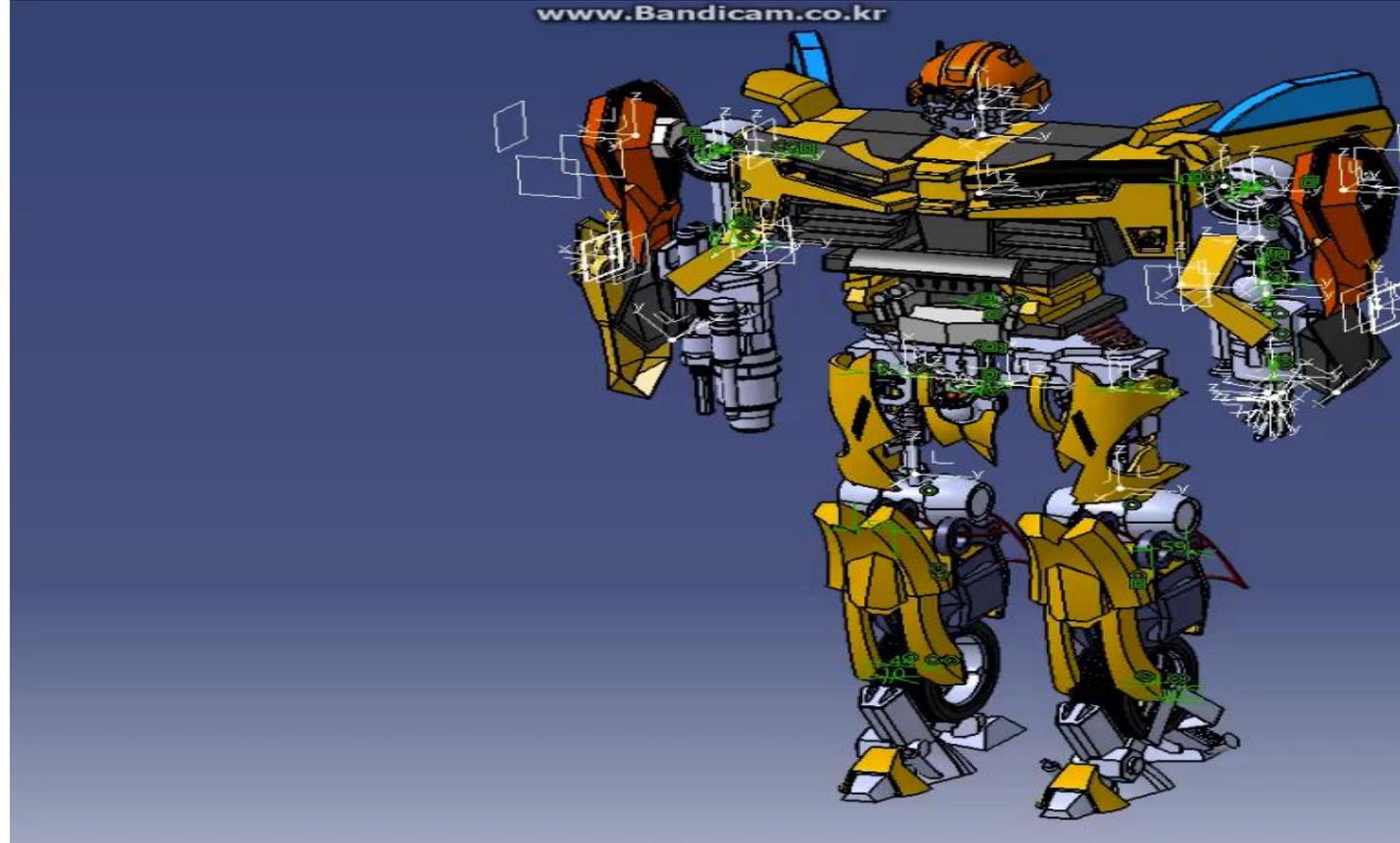
PART ASSEMBLY
KINEMATIC



머리

3.1

PART ASSEMBLY KINEMATIC



손가락

3.1

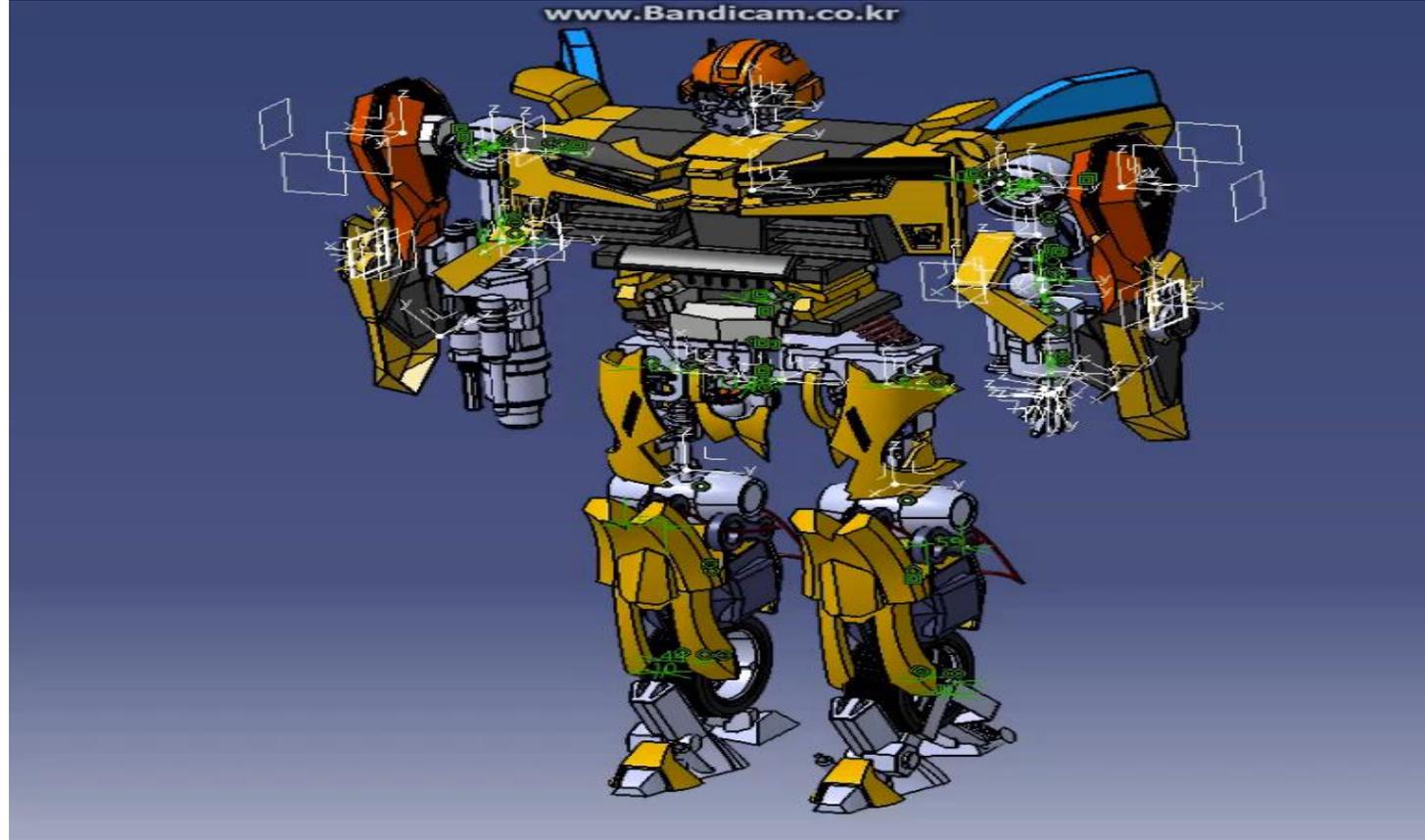
PART ASSEMBLY KINEMATIC



오른팔

3.1

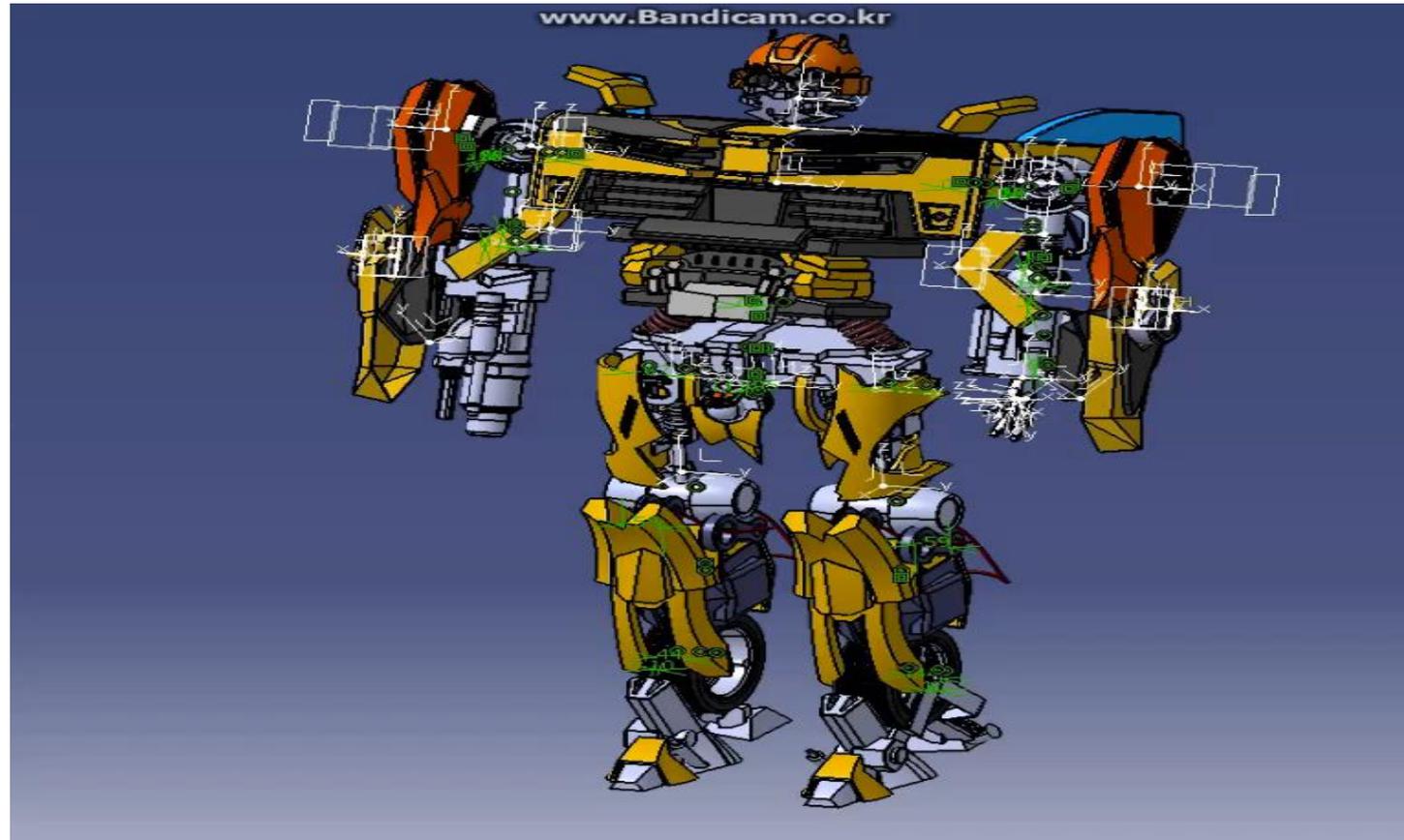
PART ASSEMBLY KINEMATIC



왼팔

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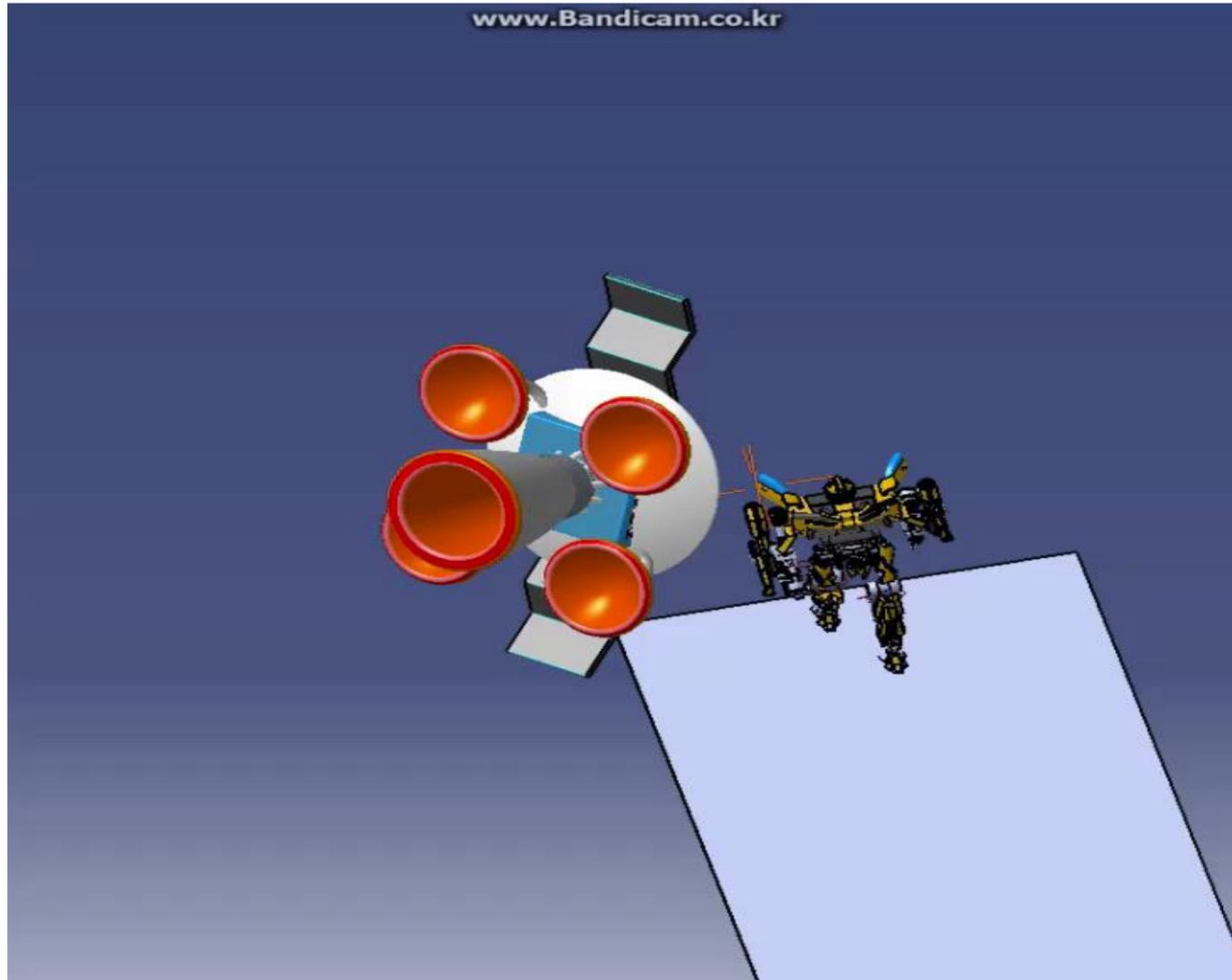
PART ASSEMBLY KINEMATIC



허리

3.1

PART ASSEMBLY KINEMATIC



4

CONCLUSION

4.1

FEEDBACK



단일화된 모델이 아닌 다양한 모델 존재

4.2

FEEDBACK

Assembly 과정 중 Affinity 적용 과정에서 비율이 안맞는 오류 발생

Gear를 활용한 System 구현에서의 미흡함

모든 물리법칙을 무시한 체 Kinetics가 아닌 Kinematics만 활용됨



***Thank you for listening,
Questions?***